

CYBERNATION AND BELONGING: VISIONS OF PAKISTAN'S FUTURE IN "THE LOST CHILDREN OF PARADISE"

Urooj Fatima

BS Scholar (English), Department of English, Akhuwat College for Women, Chakwal

Ms Sumera Mukhtar,

Supervisor, Akhuwat College for Women, Chakwal

Email: sumera.mukhtar@akhuwat.edu.pk

Dr Syed Ali Raza

Head of English Department, University of Chakwal, Chakwal

Email: ali.raza@uoc.edu.pk

Abstract

This paper examines the effects of cutting-edge technology on social realities of futuristic Pakistan along with other issues that emerge due to misuse of technology like loss of morality and fractured political system in The Lost Children of Paradise under the theoretical underpinnings of Benjamin H. Bratton's The Stack: On Software and Sovereignty by focusing on the Cloud layer, Interface layer, and User layer. The society is faced with moral crises with unprecedented uptick in crime rate disguise behind the curtain of algorithms and machines. The study reveals that in twenty-second century, society is more tilted towards illegal pursuits, for instance, kidnapping street children, hacking the minds of people to exert power and manipulating masses by the over-use of modern technology and persecuting the poor for all social imbalances in the society. This in-depth analysis shows that Pakistani society in Cybernated era is facing weaponization of technology as depicted through Firdous e Bareen in the text. Furthermore, computational layers govern society and traditional modes of surveillance are no more part of this digital world. Thematic analysis has been done by using Braun and Clarke's thematic analysis model.

Key Words: Cybernated Pakistan, Stack, weaponization of technology, Digital Governance

Introduction

The contemporary era is bombarded with technological innovations, but its effects depend on the usage of this innovation. In the Post-modern world, machines and algorithms are constantly emerging and improving our standards of lives but on the other hand, its misuse, and over-dependence is creating hindrance in human development in the form of cyborgs. Digital governance and surveillance are truly represented in The Lost Children of Paradise. As the world is transforming digitally and is considered as global village, so this novelty is altering the political, social and individual identities. McLuhan (1964) in his book named Understanding Media, stated that, "Media technologies impact us, change our perception, and ultimately change our world."

Moreover, this research intends to investigate a futuristic Pakistani society integrated with technology. Also, this research centres on a post-digital Pakistani society which is dictated by AI and is directed by machines as sketched by Omar Gillani in his novel The Lost Children of Paradise. The intention of researcher is to highlight the challenges and impacts of cutting-edge technology in twenty-second century Pakistan through the theoretical framework of The Stack: On Software and Sovereignty given by Benjamin H. Bratton. He has given the concept of megastructure of technology known as the Stack in the form of six computational layers which reorganize the digital world and its modes of governance. The depiction of Bratton's computational layers in the selected novel substantiates the fact the world is not following traditional modes of surveillance rather, every stratum of the state is under the control of technology. In addition, conversion of conventional society into data-driven society in novel The Lost Children of Paradise also affirms the supervision of artificial intelligence and algorithms in the Cybernated era. The novel mainly centres around the challenges like social disintegration, moral decay and political breakdown of technologically advanced Pakistani

society. The characters presented in the novel are facing issues of loss of identity and shattered moral values. Furthermore, this research also unveils that in post-digital era, human beings are deprived of moral values, and they take advantage of innocent individuals by the misuse of technology. Above all, machines are used to fulfill personal means.

Significance of the study

This research is significant in an era where digital surveillance and technological innovations are revolutionizing briskly, so it aids the masses to fathom the incorporation of digital infiltration in Cybernated human societies in the form of a megastructure known as "Stack". Furthermore, this research showcases twenty-second century Pakistan as hyper-digital society and highlights the major challenges like moral decay, shattered social realities, and lack of political justice due to over-dependence on technology. Moreover, this research offers a strategic foundation to policymakers and researchers to predict the possibility of growth of technology and its aftermaths in twenty-second century Pakistan.

Research Question

1. What kind of moral, political and social challenges emerge in post-digital Pakistan due to over-reliance on technology and algorithms in *The Lost Children of Paradise*?
2. In what manner do AI and digital infrastructure alter the social realities of Pakistani society, as explained through the theoretical framework of Benjamin's *The Stack* in *The Lost Children of Paradise*?

Literature Review

In the age of data-driven surveillance, modes of traditional governance and conventional ways to practice power no longer exist and are replaced by novel and updated methods to control the digital world. The theoretical framework provided by Benjamin H. Bratton in his book *The Stack: On Software and Sovereignty* is equipped with new modes of governance and it helps the readers and researchers to comprehend how social identities, sovereignty and global systems are being changed in the era of machines. There are many scholars and analysts who have given valuable contribution in predicting the future of the world and have given their perspectives on the expansion of AI and algorithms. Natallia Bialiayeva (2024) explores the digital infrastructure of Russian search platform through the theoretical lens of Bratton's *The Stack: On Software and Sovereignty*. Her study mainly revolves around the exploration of socio-technical architecture of various search platforms operating in Russian Federation. This study is intended to analyse the platforms, for instance Yandex, Dzen and Google. These are not just platforms operating under the commands of cutting-edge technology but modern superstructures containing interconnected computational layers that reorganize the digital world by transforming social values and overall traditional infrastructures of the world. Bratton's theoretical framework is based on six layers named as User, Interface, Address, City, Cloud, and Earth. In this research, Natallia Bialiayeva sheds light on the procedure of information management, modes of digit Hence, Natallia's study plays a crucial role to construct and reinforce state ideologies, AI surveillance, and how online content is governed by authoritarian regimes. In a nutshell, Natallia's study unveils that some Russian platforms like Yandex and Dzen are controlled and monitored by Russian state while Google opposes this supervision on the data. So, the study is about digital surveillance and pinpoints the role of digital platforms in authoritarian contexts (Bialiayeva, 2024).

Joshue Carswell is another scholar whose research on *The Stack: On Software and Sovereignty* plays a vital role in the re-examination of individuality, global politics and digital governance. Carswell (2019), states that Bratton has introduced planetary-scale computation through six layers named as Earth layer, Cloud layer, City layer, Address layer, Interface layer and User layer. Moreover, he is of the view that Bratton has challenged the conventional modes

of governance rooted in Westphalian system and has argued that traditional nation-state model is inadequate to maintain the brisk expansion of digital infrastructure and digital platforms. Tech Behemoths like Amazon, Google and Facebook exercise tremendous control not just to cloud computing but also over data and all the globally prevailing networks. Hence, it is remoulding the foundations of governance and citizenship. Carswell further opines that Bratton's theory is the amalgamation of architecture, software, politics, and speculative science fiction and all these notions combine to form a unique genre called "theory fiction". The new genre recruit's narrative imagination not just as fantasy but as an important method to fathom transformation of the real world and predict their future trajectories. In the recent years, many researchers have studied *The Stack: On Software and Sovereignty* by Bratton to comprehend its computational layers of digital surveillance. Benjamin T. Busch (2019) examines how neoliberal self- management transforms these techno-political layers. Moreover, he further states that individuals manage their lives like enterprises by relocating power structures from nation-states to AI-driven systems. Busch unites this idea to digital governance, defined through Bratton's *The Stack*.

Brent Sturlaugson (2017) has written his article in *Journal of Architectural Education* on *The Stack: On Software and Sovereignty*. He opines that Bratton has challenged the traditional notion on infrastructure and digital surveillance, and he has also appreciated Bratton for the introduction of Stack. Moreover, he has positively criticized Bratton's Stack due to its complex and dense prose as this complexity may hinder the readers to comprehend the original meaning. Sturlaugson has also cherished the Bratton's intellectual precision and highlighted that Stack is essential framework to fathom modern sovereignty which is commanded by algorithms and planetary logistics. Hence, this study highlights the strengths as well as challenges of *The Stack: On Software and Sovereignty*.

Theoretical Framework

Benjamin H. Bratton is an American theorist and philosopher. He has given a novel theoretical framework in the form of *The Stack: On Software and Sovereignty* (2016). In this book he has examined the impacts of technology on the social realities and governance on global level. Bratton is of the view that networks, digital platforms, and technology combine to form a megastructure named as *The Stack*. The Stack consists of six interconnected layers which are essential for the persistence of human beings in this Cybernated era. These layers are commanded and monitored not by weapons and armies but by codes and algorithms, so they are introducing new ways of governance.

This theoretical framework focuses on the fact that Stack is not merely a megastructure, rather it is essential to build human agency, shape decision making and direct digital societies. Hence, Bratton is the pioneer of this novel ideology to regulate modern societies. This research paper is mainly focused on Bratton's main concepts including Cloud, User and Interface layer to comprehend the consequences of technology in futuristic Pakistan.

Cloud Layer

According to the selected theoretical framework, Cloud layer one of the important tenet applicable to this research. It re-examines individual identity, modes of surveillance and sovereignty in the period of planetary scale-computation. According to Benjamin H. Bratton, Cloud layer is not merely an infrastructure which is responsible to provide services but also geopolitical machine that reorganizes politics by "erasing some geographies and producing others, forming and destabilizing territories in competitive measure" (Bratton, 2016, p.110).

Many platforms like Google Cloud, Facebook, Amazon, and Microsoft Azure have asserted their hegemony by completely controlling masses through communication, identity management and infrastructure. Moreover, this system is responsible for the initiation of "user-citizens" who rely on these giant infrastructures for services and in return submit their identity

and data as a form of currency. Bratton is of the view that these types of platforms regulate like quasi-states. (Bratton,2016, p.110-111). Such platforms form Cloud Polis as they “take on traditional governing assignments such as public cartography, legal identity, currency, protocol allegiance, even patriotism” (Bratton,2016, p.109). The Cloud layer is a big challenge to conventional state boundaries because it is operated by algorithms and ultimately reshape power structures. So, this tenet highlights the issues of modern men like transformed modes of surveillance, sovereignty and human agency.

Interface Layer

Interface layer is also a crucial layer contributing to this research paper. Bratton stated that Interface layer “consists of any technical-informational machine, compressed into graphical or objective formats, that links or delinks Users and the Addressed entities up and down columns within the Stack” (Bratton,2016, p.220). It is a performative layer which introduces new modes of governance, build the perception of common masses, and regulates the interactions in the Cybernated era. Likewise, Bratton has also defined this layer as “An interface is any point of contact between two complex systems that governs the conditions of exchange between those systems. Levers, steering wheels, doorways, mobile Apps, fences, office layout schemes, international borders, telecommunications infrastructure: these are all interfaces” (Bratton,2016, p.220).

It constructs the acumen of people, regulate their actions and encode their ideologies. For example, many applications on mobile phones reshapes the perceptions of people and mediate between the system and users. This tenet has an important role in this research because it investigates how digital ways of surveillance are reshaped by technology and algorithms and how the interface layer relates to people through everyday affairs.

User Layer

In Benjamin’s theoretical framework, user layer is positioned at the top of Stack. Instead of a constant location, it is changeable. According to the theorist, Benjamin H. Bratton, “User is not a type of creature but a category of agents; it is a position within a system without which it has no role or essential identity” (Bratton,2016, p.251). This concept shatters the conventional humanist approach, according to which human beings are the absolute authorities and they are masters of their tools. Bratton also states that the one which operates the system comes under the category of User, also, the one who gets affected by the system is termed as User. In short, User is an entity which becomes the component of the megastructure.

In addition, User layer is interconnected with other computational layers of the Stack, and it is changing steadily because of digital analysis.

Research Methodology

This research has used qualitative approach, and its focus is on thematic analysis of the selected text, *The Lost Children of Paradise*. The researcher is doing thematic analysis of the text as a research method proposed by Braun and Clarke in their notable article “Using Thematic Analysis in Psychology”. According to Braun and Clarke (2006), “thematic analysis is a method for identifying, analysing, and reporting patterns (themes) within data”. Additionally, Braun and Clarke have highlighted the importance of thematic analysis and mentioned that themes capture the essence of the data, and they are directly related to research questions and objectives. However, this model of thematic analysis comprises of six stages as explained below.

- **Familiarizing yourself with data**

Familiarizing yourself with data is the first step of thematic analysis and it means to establish familiarity with the data. It is mandatory for the researcher to carefully collect the data to identify the patterns and meanings. If there is some sort of spoken data like interviews etc, they must be transcribed precisely by encompassing every sound and word.

- **Generating Initial Codes**

The next step of Braun and Clarke's thematic analysis model is generating initial Codes. Codes are defined as relevant units of data related to researcher's focus. At this stage, researchers organize the data in different but related groups. A single segment may contain multiple codes and includes the surrounding data to make sure that the meaning is inculcated clearly and accurately.

- **Searching for Themes**

Searching for themes is the third phase of Braun and Clarke's model. At this stage, researcher is required to organize the codes in some themes at broader level and other as some sub-themes. Researcher's task is to analyse the codes, merge the related codes, and may use visual aids like mind maps and tables for clear connections.

- **Reviewing Themes**

The fourth stage is named as reviewing the themes and it consists of the procedure to refine themes by removing, blending or splitting them for precision. Firstly, researcher is responsible to check whether the data within each theme is coherent or not and secondly, the researcher checks out whether the thematic map is depicting the holistic meaning or not. At this stage, clarity of meanings and accuracy of themes is established.

- **Defining and naming Themes**

Defining and naming the themes is the fifth stage of Braun and Clarke's model and it intends to apprehend the true essence. Researchers amend and organize the themes in a comprehensible narrative to assure the lucidity of meanings. At last, themes are given related names which are concise but ponder their overall content.

- **Producing the Report**

The last step of model of thematic analysis is to produce the report which aims to present a rational, vivid and gripping account of their findings. The report should provide evidence of the mentioned themes from the text with clear examples.

In a nutshell, the research centres on the significance of the thematic analysis in extracting the covert meanings and cultural notions. By the careful examination of bombardment of machines and algorithms in the novel *The Lost Children of Paradise*, it unveils how data-driven infrastructures, digital surveillance and algorithms may reorganize the futuristic Pakistani society. This study uses secondary data and highlights the impacts of technology on human lives in twenty-second century Pakistan.

Discussion and Analysis

The Lost Children of Paradise, written by Omar Gillani is a notable science-fiction sketching twenty-second century Pakistan where the society is segregated into two segments. The novel revolves around a semi-retired police officer who encounter a self-driving cargo container which is crashed near Islamabad. The news not only reaches to national or international media but also to space. So, from space confederation, sergeant Adil Khan is sent on the earth to investigate the case. Teaming up with officer Nawaz, Adli Khan finds a Pakistan, bombarded with artificial intelligence and is regulated by hover cars, and codes. Likewise, political deceptiveness and misuse of machines prevail in the society. There is weak establishment, and moral values are segmented in the society. Firdous e Bareen, a covert organization is the representation of broken political system and exploitation of surveillance. According to *The Stack: On Software and Sovereignty*, Cloud layer is termed as Cloud layer is defined as the realm of platform sovereignty, where giant technological corporations hold major control on the state policies. This control obscures the distinction between state government and corporate control. Firdous e Bareen, in the novel is the representation of Cloud layer in *The Lost Children of Paradise*. This hidden organization operate just like Cloud layer, and it control the lives of poor people, practice it dominance and have control over the major

portion of data. Moreover, this place is involved in kidnapping of street children, and other illegal pursuits or simply a hideout for so called respected leaders. Sergeant Adil Khan while investigating the case that this is “A place that functioned beyond the reach of the law” (Gillani,2021,p.195).As in Bratton’s book, Cloud layer is having control and authority which is synonymous with the concept of this place because, it is evident from the text that this organization exert its power on the public by doing illegal acts in the society without having the fear of being questioned. Its dominance becomes more vivid when Summiya expresses that, “Firdous e-Bareen is some sort of criminal organization o r g a n harvesting to creating cyborgs, child smuggling,

beggar mafias, lizard people controlling the nation, you name it” (Gillani,2021, p.117). So, the novel provides a holistic view of how technology is used for hidden conspiracies of a power group in the society. Cloud layer is also depicted in another way in the novel. Sara, one of the key characters in this novel, hacks a psychological programme from intelligentsia, she says, “The program was designed to ‘influence, manipulate, and control,” (Gillani,2021, p.179). She uses this program to control the minds of people and treats them like puppets to get her own benefits from them. This is how Cloud layer exerts its power on the lives of people in twenty-second century Pakistan. According to Bratton, in the Cybernated world, sovereignty is slipped from the traditional state boundaries rather it is more concerned with modern platforms.

According to Benjamin H. Bratton, Interface layer mediates between the user and the system. This layer is powerful enough to form the perceptions of people, build acumen, determine modern ways of governance, and explains new modes to interact with the technology in hyper-digital era. The Lost Children of Paradise represents interface layer in the form of telecommunication infrastructure, visors, mobile Apps, augmented suits and holograms. Adil’s augmented suit is the demonstration of human interaction with machines. By wearing his suit, he probes the junkie, but junkie hacked his augmented suit and “He couldn’t move. The suit’s various joints automatically stretched, straightening him back up. He had lost all motor control”. (Gillani,2021, p.33-34). According to theoretical lens, interface layer shapes the actions of people so, in the above example, Adil’s action is dependent on the working of augmented suit. His interaction with machines has made him paralyse and he is unable to move and use his motor skills. Technology in twenty-second century enslaves our actions and perceptions because Adil Khan detected the junkie through visor and tried to use the junkie through the power of augmented suit. So, there is dearth of human agency and control on their own lives. Technology is considered as the only power in the Cybernated world and presence of junkies in the alleys is the vivid portrayal of lawlessness and broken social systems in the era of algorithms.

Bratton opines that interface layer not only defines the perceptions and shapes people’s actions but also manipulates them due to over-reliance on it. Selected novel represents that in hyper-digital era, all the big institutions of Pakistani society rely on technology which, due to over-dependence, make the system submissive. The interaction of police department with interface layer while arresting sergeant Adil Khan for their so-called democracy depicts how interface layer has manipulated them. The corrupt police officers’ approaches to Adil Khan and “The Lieutenant walked up to Adil and bent down and flicked a switch on the small device. With a final flicker, Adil disappeared” (Gillani,2021, p.173). This happened because Adil created his digital illusion to mislead the police officers. Hence, in this way interface layer defines human actions and exerts its power on social institutions of society.

Bratton’s The Stack: On Software and Sovereignty gives the concept of User layer. User layer designates the idea of quantified self, where human individuality is transformed into digital- agents and they are subjected to the control of machines. Pakistan in twenty-second century manifests the presence of digital surveillance. Moreover, User operates the system as

well as gets influenced by the system. The Lost Children of Paradise is bombarded with the examples of User layer. Choooha is the kid who is kidnapped by Firdous e Bareen and ultimately brainwashed by the members of this organization. He is subjected to perform different tasks as commanded by the technology and his brain is hijacked. Sergeant Adil Khan forced the Gullu Shah to call Choooha and then “Gullu clicked on the Pod control and switched it to OPEN., and a little boy stepped out of it and stood up” (Gillani,2021, p.224). Choooha comes in front them just like a robot. Here, Choooha is the User who is influenced by machines. Although Choooha and officer Nawaz are good friends but, in this situation, Choooha is under the supervision of technology and Gullu Shah commanded him, “maar daalo isko” (Gillani,2021, p.226), and he tries to kill his own friend just because he is affected by the technology. So, technology limits human agency and fractures the moral values. This notion also challenges the concept of superiority of human beings. Likewise, one of the main agenda of Firdous e Bareen is “organ harvesting to creating cyborgs” (Gillani,2021, p.117). So, Firdous e Bareen is creating bionic beings whose identity is implanted by the machines. Hence, twenty-second century Pakistan is over-dependent on algorithms and society is indulged in many immoral deeds and has disjointed political structures.

Conclusion

To conclude, The Lost Children of Paradise is not only a detective science fiction but also offers a futuristic critique of Pakistani society in the next century. Through the theoretical underpinnings of Bratton’s, The Stack, the novel highlights how cloud and interface layers dominate human interaction and governance, creating a megastructure of control. It brings the misuse of advanced technology by powerful organizations to the forefront, where kidnapped children are manipulated for unlawful activities, individuals become paralyzed without machines, and Pakistan’s political system deteriorated under digital domination. By portraying immobilized bodies, controlled minds, fractured institutions, and collapsing moral values, the novel warns of a future defined by machine surveillance and digital governance, using critical reflection on technology’s role in shaping human autonomy and social realities. This study invites future researchers to do character analysis of different characters in the novel with more advanced theoretical frameworks. Moreover, the room is also open for future research enthusiasts to conduct comparative studies of The Lost Children of Paradise with other literary works to gain more vivid picture of impacts of technology on social realities of Pakistani society. These directions will help the future researchers to probe into the in-depth analysis of the novel on very broader level. These recommendations are inviting new researchers to explore new themes and extract some unique ideas from this science fiction.

References

- Bratton, B. H. (2016). The stack: On software and sovereignty. MIT Press.
- Bratton, B. H. (n.d.). About. Benjamin H. Bratton. Retrieved May 26, 2025, from <https://bratton.info/>
- Busch, B. T. (2019). Self-management and the stack. Making & Breaking, (1). Retrieved May 26, 2025, from <https://makingandbreaking.org/>
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. Qualitative Research in Psychology, 3(2), 77–101. <https://doi.org/10.1191/1478088706qp063oa>
- Carswell, J. (2019). Monoliths and dimensions: Benjamin H. Bratton’s The Stack as theory-fiction. Pli, 30, 191–215.
- Gilani, O. (2021). The lost children of paradise: A Pakistani science fiction novel. Independently published.
- Gilani, O. (n.d.). About. Omar Gilani. Retrieved May 26, 2025, from <https://www.omargilani.com/about>

- Gilani, O. (n.d.). About the author. Amazon Author Page. Retrieved May 26, 2025, from <https://www.amazon.in/stores/author/B099WH7LJN/about>
- Hanisch, M., Schüller, D., Grundner, L., & Reibenspiess, V. (2023). Digital governance: A conceptual framework and research agenda. *Journal of Business Research*, 162, 113777. <https://doi.org/10.1016/j.jbusres.2023.113777>